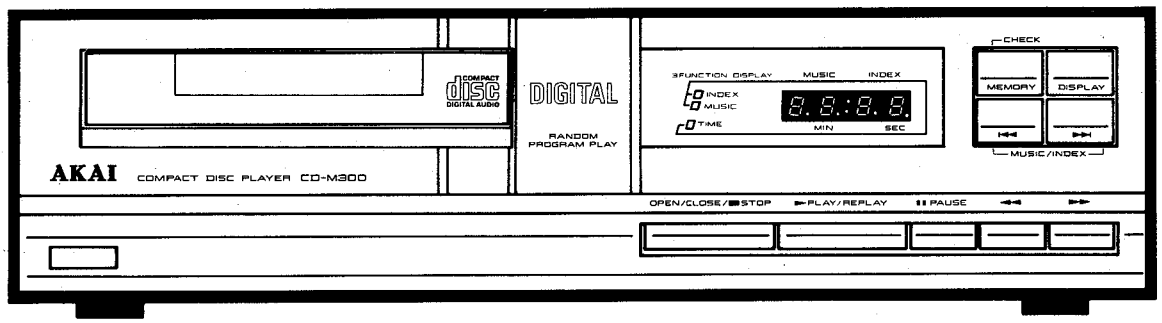
AKAI SERVICE MANUAL



COMPACT DISC PLAYER

MODEL CD-M300

COMPACT disc DIGITAL AUDIO

SPECIFICATIONS

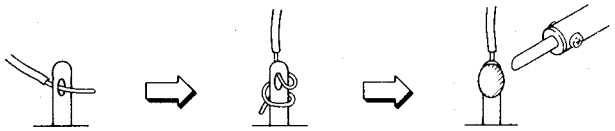
Sensor type	Optical
Pick-up System	1 beam semi-conductor laser
Channel	2
Sampling frequency	44.1 kHz
Frequency response	5 Hz to 20,000 Hz
T.H.D.	0.006% (1 kHz)
Channel separation	86 dB (1 kHz)
Dynamic range	90 dB
Wow and flutter	Below measurable limits
Line output level	2 V
Power requirement	120 V, 60 Hz for USA and Canada 220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK and Australia 110/120/220/240 V, 50/60 Hz convertible for other countries
Dimensions	350 (W) × 89 (H) × 274 (D) mm (13.8 × 3.5 × 10.8 inches)
Weight	3.5 kg (7.7 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locatoins.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

★INFORMATION

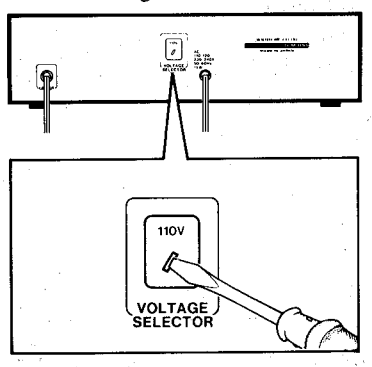
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[A]	USA
[B]	UK
[C]	Canada
[E]	Europe (except UK)
[J]	Japan
[S]	Australia
[V]	W. Germany only
[U]	Universal Area
[Y*]	Custom version

VOLTAGE CONVERSION ([U] Model only)

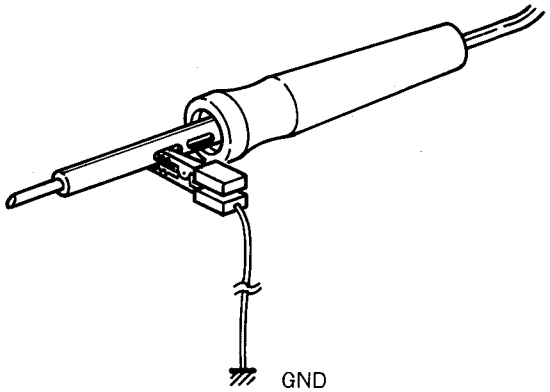
Befor connecting the power cord. SET the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



PRECAUTIONS IN REPAIRING

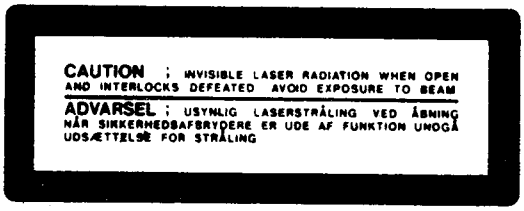
When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal objects in the narrow gap between the P.C. board or the mecha parts and the base.
3. The Micro-Computer (MAB8441P) and the CD signal processing ICs (TDA5708, TDA5709, M4804A, TDA1541) can be damaged by static electricity or leakage from a soldering iron during repairing.
   While soldering, please take the precautions against leakage as in the illustration.
4. Do not loosen any screws in the pick-up block.
   When handling the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (Objective Lens) directly.
6. Models for the same countries, Laser Warning Labels are affixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.



[DENMARK]

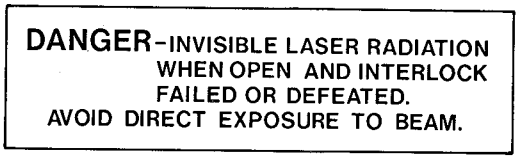
A Label affixed on the unit


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING

A1 A Label affixed inside of the unit

[USA]

A Label affixed on the unit

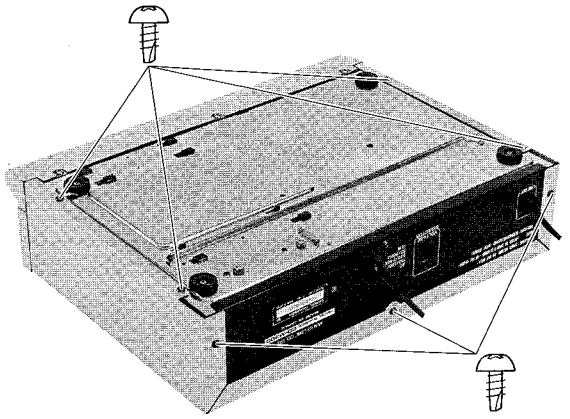


A1 A Label affixed inside of the unit

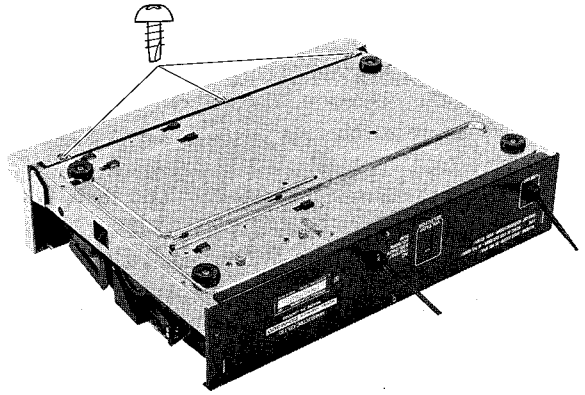
I. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs.
Reassemble in reverse order.

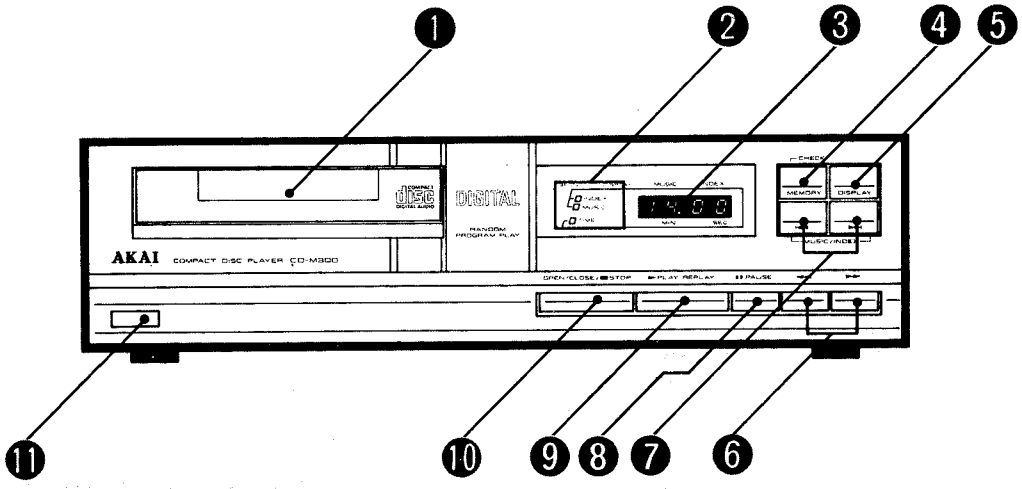
1. REMOVAL UPPER COVER



2. REMOVAL FRONT PANEL



II. CONTROLS



1 Disc drawer/window
Holds a compact disc.

2 Display mode LED indicator (MUSIC NO/INDEX, TIME)
Shows the LED display mode.

3 LED (light emitting diode) Display
Shows what mode the Akai CD player is in.

4 MEMO/CHECK button
To memorize and confirm programs for random playback.

5 DISPLAY/Function mode Select button
To choose the display mode and MUSIC/INDEX (⏮ / ⏭) buttons mode during index playback.

6 Manual Search buttons (◄◄ / ►►)
Use these buttons for manual search operation.

7 MUSIC/INDEX (⏭ :Forward/ ⏮ :Backward) buttons
Use for skip search playback, programming, index playback.

8 PAUSE (▮▮) button
To temporarily stop playback.

9 PLAY/REPLAY (►) button
To start playback and to re-start playback from the beginning of the music selection.

10 OPEN/CLOSE/(■)STOP button
To load and eject compact discs, to stop compact disc playback and to cancel all the memorized programs.
*Use to open and close the disc tray.

11 POWER Switch
To turn ON and OFF the Akai CD player.

III. PRINCIPAL PARTS LOCATION

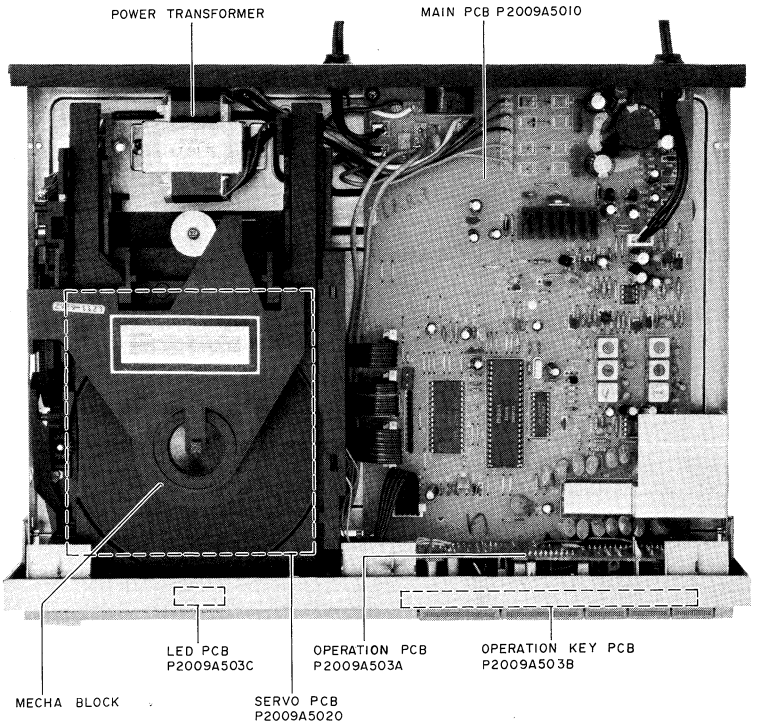


Fig. 3

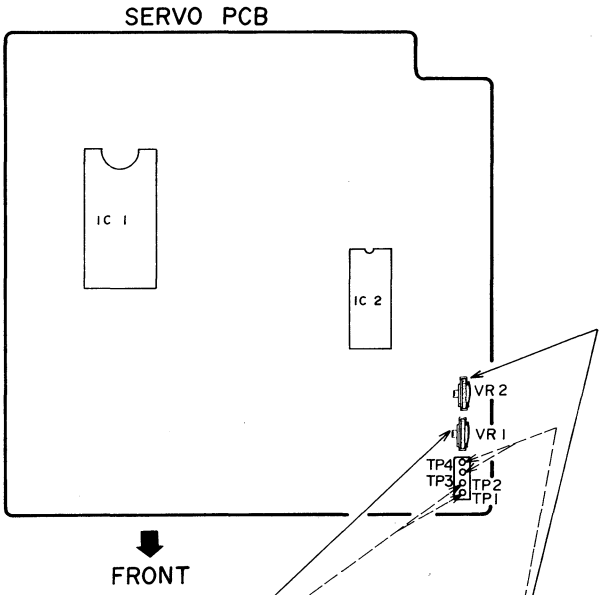
IV. ADJUSTMENT

* Normally these adjustments are not necessary, except mis-adjusted by mistake and replaced the parts.
* Set VR1, VR2 to about neutral, before adjustment.

STEP	Adjustment Item
1.	Test Disc & Track NO.
2.	Mode
3.	Test Point & Adj. Part.
4.	Result & Remarks.

Test Point

ADJ. PART



1.	LASER POWER
1.	SONY Type III (AT-711881), NO.1
2.	Play mode
3.	Connect a Digital voltmeter between TP2 (+) and TP1 (–). VR1
4.	50mV ± 2mV DC

2.	TRACKING SERVO OFF-SET
1.	——
2.	Stop mode
3.	Connect a Digital voltmeter between TP4 (+) and TP3 (–). VR2
4.	785mV ± 100mV DC

V. REPLACEMENT OF THE MICRO-COMPUTER IC1 ON THE MAIN PC BOARD.

1. When the IC1 MAB8441PT012 is used, replace it to the MAB8441PT078.
2. When the IC1 MAB8441PT012 and Sister Board are used, replace it to the MAB8441PT078 as shown in Fig. 5-1.
   ① Remove the Sister PC Board fixing screw Ⓐ.
   ② Disconnect the wires on the connector (a) and (b), and remove the wires on the IC2 pin ㉖ and ㉗.
   ③ Remove the X'Tal on the Sister PC Board, and set the place of "X1" on the Main PC Board.
   ④ Remove the resistor Ⓑ (1MΩ) on the Sister PC Board, and set the place of "R2" on the Main PC Board.
   ⑤ Remove the capacitor Ⓒ and Ⓓ (33P) on the Sister PC Board, and set the place of "C1" and "C2" on the Main PC Board.
   ⑥ Remove the connector (a) and (b), set the IC1 (MAB8441PT708).

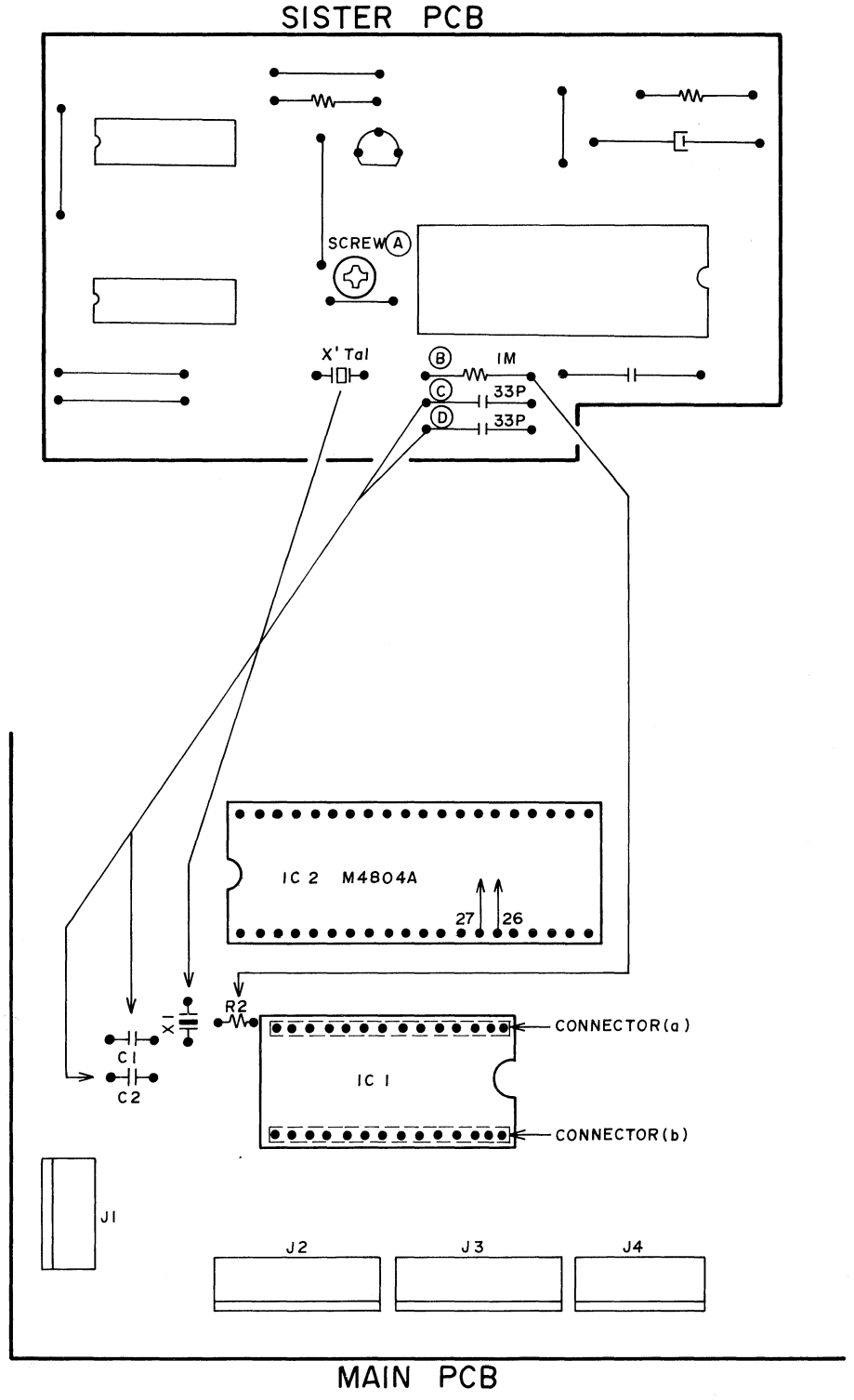


Fig. 5-1

VI. REPLACEMENT OF THE MECHANISM BLOCK.

① Remove the Front panel.
② Remove the Mechanism block fixing screw Ⓐ.
③ Disconnect the connector J_2, J_3 and J_4 on the Main PC Board, and P8 on the Operation PC Board. (refer to Fig. 6-1)

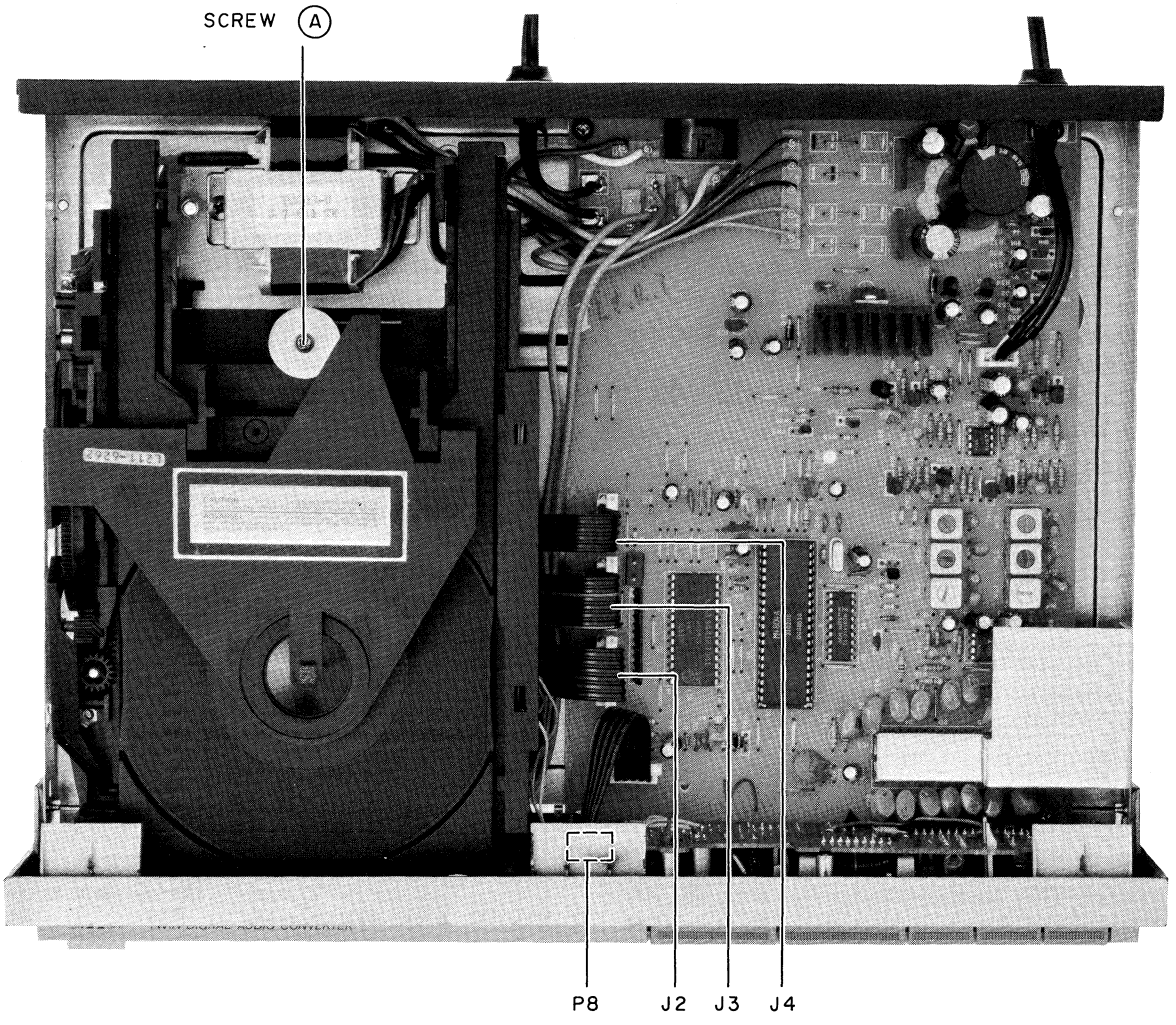


Fig. 6-1

VII. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

- SP (Service Parts) Classification
- A small "x" indicates that this part is not shown in the Photo or Illustration.
- This number corresponds with the individual parts index number in that figure.
- This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

- Symbols for primary destination
  [A]: AAL(U.S.A.) [S]: SAA(Australia)
  [B]: BEAB(England) [U]: U/T(Universal Area)
  [C]: CSA(Canada) [V]: VDE(W. Germany)
  [E]: CEE(Europe) [Y]: Custom Version
  [J]: JPN(Japan)
- SP (Service Parts) Classification
- These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

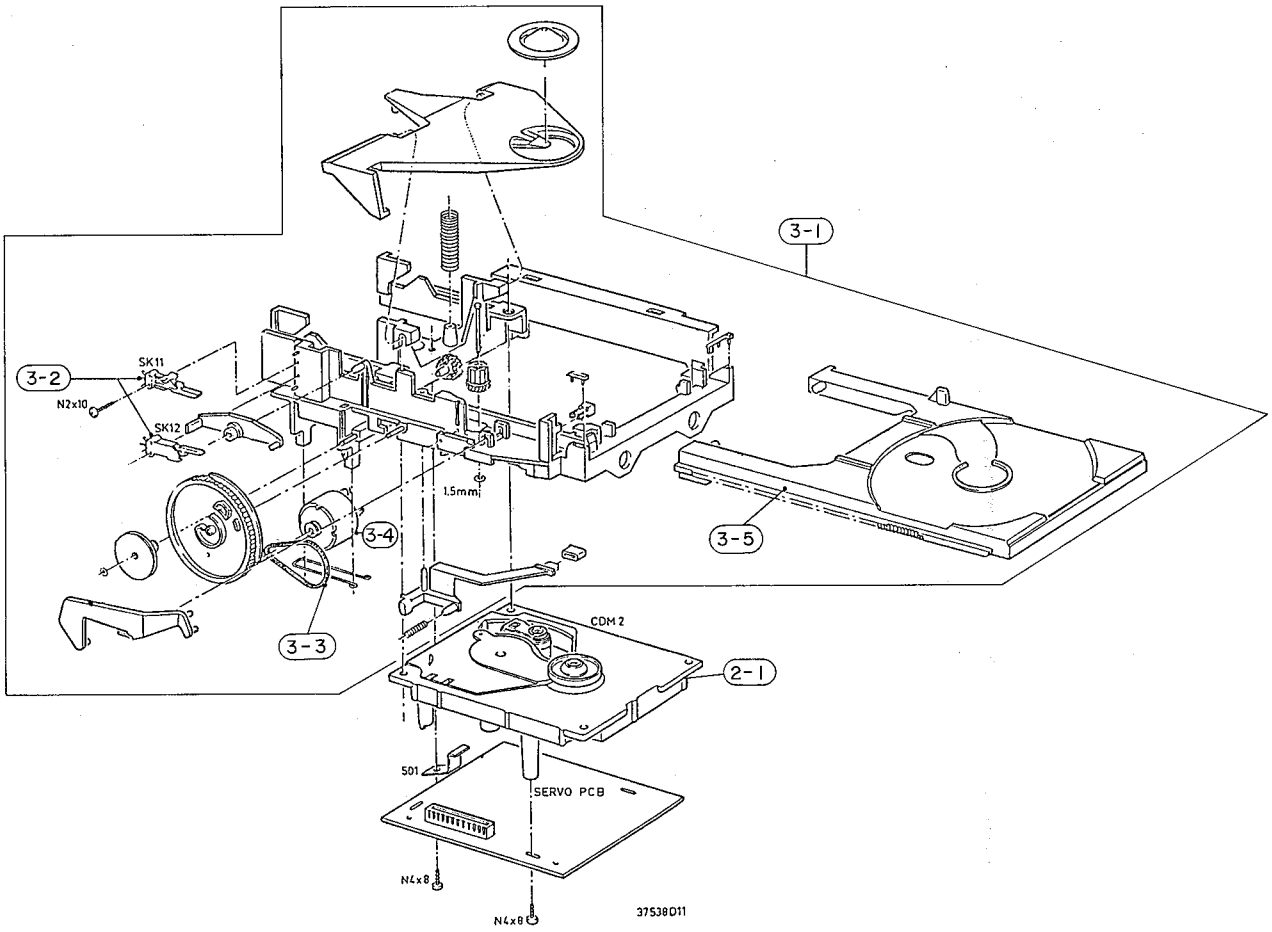
AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

Ref. No.	Part No.	Description
1	BB-369220	MECHA CD CDM2 (P2009)
2	BB-369221	MECHA CD LOADING P2009
3	BM-719452	MOTOR LOADING
4	*BT-369204	TRANS POWER P2009(B,S)
5	*BT-369201	TRANS POWER P2009(C,A)
6	*BT-369203	TRANS POWER P2009(E,V)
7	*BT-369200	TRANS POWER P2009(U)
8	*ED-322238	D SILICON 1B4B41 100/1.0A
9	ED-249377	D LED GL-3AR1 RED
10	ED-370415	D LED SLR-34DT5F
11	ED-361055	D SILICON DS135E-UB1
12	ED-344280	D SILICON H GMA-01-FY2 F05
13	ED-371381	D SILICON H 1N4148
14	ED-346593	D ZENER H HZ3 B1
15	ED-330962	D ZENER H HZ4 C1
16	ED-306012	D ZENER H HZ7 A3
17	ED-346605	D ZENER H HZ7 C2
18	*EF-360723	FUSE BET T 250V 100MA [B]
19	*EF-358641	FUSE BET T 250V 800MA [B]
20	*EF-339902	FUSE SEMKO T 250V 100MA [E,S]
21	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
22	*EI-369212	IC TA78L015AP
23	*EI-315243	IC TA78005AP
24	*EI-367186	IC TA79L006P
25	*EI-369215	IC TA79L015P
26	EI-372119	IC MAB8441 T078
27	EI-369225	IC MAB8441P T018
28	EI-369210	IC MB81416-12
29	EI-349719	IC M5218P
30	EI-362588	IC M5238P
31	EI-307789	IC NJM4560D
32	EI-369209	IC SAA7210
33	EI-369284	IC SGSL272M
34	EI-371852	IC TDA1541-N5
35	EI-369205	IC TDA5708
36	EI-369206	IC TDA5709
37	EI-347991	OSC CE CSA6.00MS 6MHZ
38	EI-369216	OSC X'TAL P2009 11.2896MHZ
39	EM-370414	IND LE LTM-8328G CHARACTOR
40	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
41	*ER-349424	R FUSE ERD2FC S10 1/4W 18R0G
42	*ER-305791	R FUSE RF25SJ 1/4W 100J
43	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
44	*ER-369300	R FUSE RF25SJ 1/4W 3R3J
45	*ER-366452	R FUSE RF25SJ 1/4W 4R7J
46	*ER-308896	R FUSE RF25SJ 1/4W 470J
47	*ES-361797	SW PUSH SDDLD1
48	*ES-344274	SW SELECT HXW0244-01-060 01-4 [U]
49	ES-719451	SW SKELETON
50	ES-336780	SW TACT SKHHAJ004A
51	ET-308472	TR 2SA1115 E,F,G F05
52	ET-372109	TR 2SA1161
53	ET-347738	TR 2SA1282A E,F F05
54	ET-308141	TR 2SC2603 G F05
55	ET-349272	TR 2SC3242A E,F F05
56	ET-357845	TR 2SC3242A F,G F05
57	ET-349081	TR 2SC3383 S,T
58	MB-719453	BELT LOADING

CD MECHA BLOCK



2. CD MECHA CDM2 (P2009) BLOCK

Ref. No.	Part No.	Description
2-1	BB-369220	MECHA CD CDM2 (P2009)

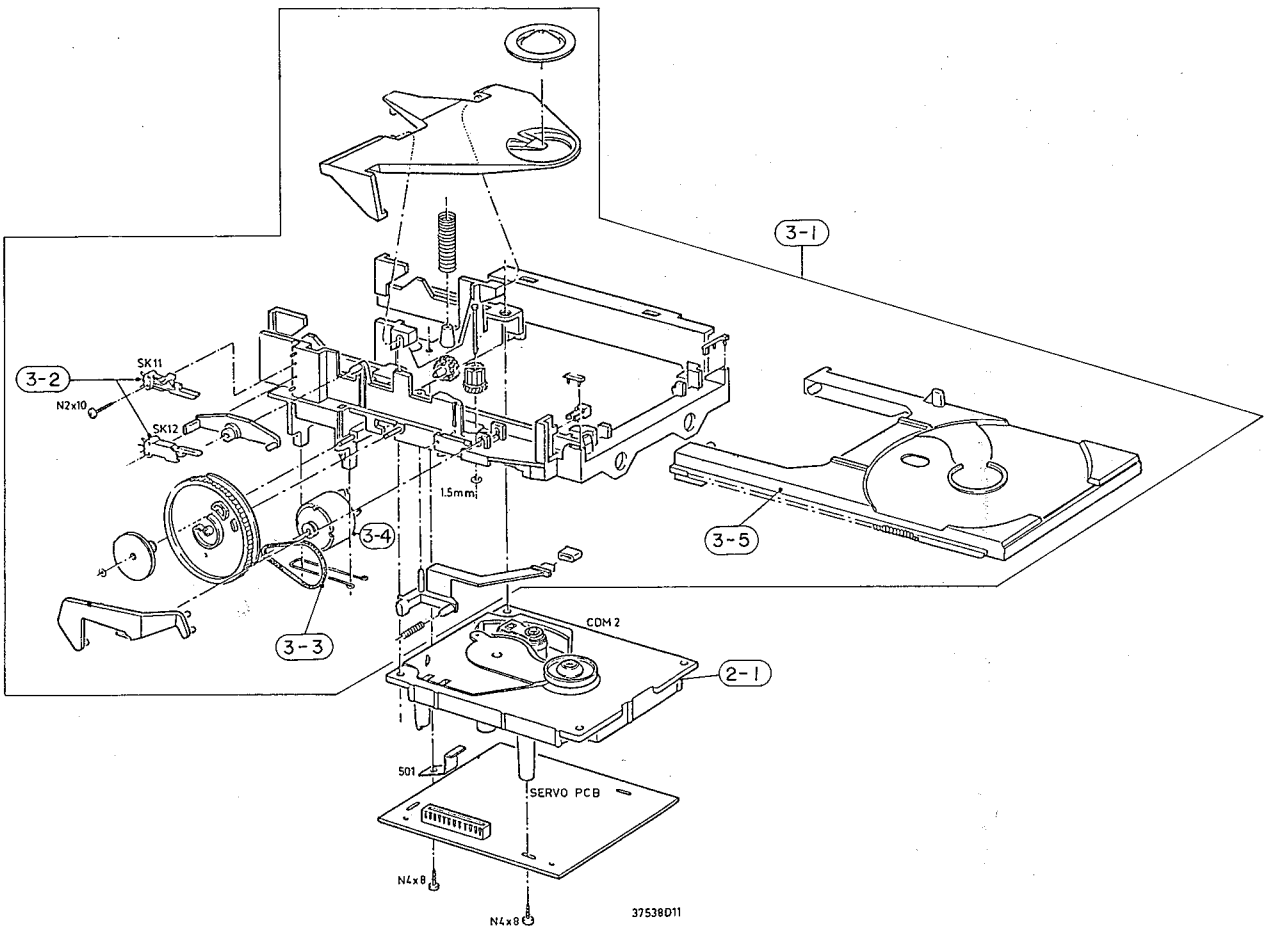
3. CD LOADING MECHA (P2009) BLOCK

Ref. No.	Part No.	Description
3-1	BB-369221	MECHA CD LOADING P2009
3-2	ES-719451	SW SKELETON
3-3	MB-719453	BELT LOADING
3-4	BM-719452	MOTOR LOADING
3-5	SC-719454	DISC TRAY

1. RECOMMENDED SPARE PARTS

Ref. No.	Part No.	Description
1	BB-369220	MECHA CD CDM2 (P2009)
2	BB-369221	MECHA CD LOADING P2009
3	BM-719452	MOTOR LOADING
4	∗BT-369204	TRANS POWER P2009(B,S)
5	∗BT-369201	TRANS POWER P2009(C,A)
6	∗BT-369203	TRANS POWER P2009(E,V)
7	∗BT-369200	TRANS POWER P2009(U)
8	∗ED-322238	D SILICON 1B4B41 100/1.0A
9	ED-249377	D LED GL-3AR1 RED
10	ED-370415	D LED SLR-34DT5F
11	ED-361055	D SILICON DS135E-UB1
12	ED-344280	D SILICON H GMA-01-FY2 F05
13	ED-371381	D SILICON H 1N4148
14	ED-346593	D ZENER H HZ3 B1
15	ED-330962	D ZENER H HZ4 C1
16	ED-306012	D ZENER H HZ7 A3
17	ED-346605	D ZENER H HZ7 C2
18	∗EF-360723	FUSE BET T 250V 100MA [B]
19	∗EF-358641	FUSE BET T 250V 800MA [B]
20	∗EF-339902	FUSE SEMKO T 250V 100MA [E,S]
21	∗EF-258344	FUSE SEMKO T 250V 800MA [E,S]
22	∗EI-369212	IC TA78L015AP
23	∗EI-315243	IC TA78005AP
24	∗EI-367186	IC TA79L006P
25	∗EI-369215	IC TA79L015P
26	EI-372119	IC MAB8441 T078
27	EI-369225	IC MAB8441P T018
28	EI-369210	IC MB81416-12
29	EI-349719	IC M5218P
30	EI-362588	IC M5238P
31	EI-307789	IC NJM4560D
32	EI-369209	IC SAA7210
33	EI-369284	IC SGSL272M
34	EI-371852	IC TDA1541-N5
35	EI-369205	IC TDA5708
36	EI-369206	IC TDA5709
37	EI-347991	OSC CE CSA6.00MS 6MHZ
38	EI-369216	OSC X'TAL P2009 11.2896MHZ
39	EM-370414	IND LE LTM-8328G CHARACTOR
40	∗ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
41	∗ER-349424	R FUSE ERD2FC S10 1/4W 18R0G
42	∗ER-305791	R FUSE RF25SJ 1/4W 100J
43	∗ER-325381	R FUSE RF25SJ 1/4W 2R2J
44	∗ER-369300	R FUSE RF25SJ 1/4W 3R3J
45	∗ER-366452	R FUSE RF25SJ 1/4W 4R7J
46	∗ER-308896	R FUSE RF25SJ 1/4W 470J
47	∗ES-361797	SW PUSH SDDLD1
48	∗ES-344274	SW SELECT HXW0244-01-060 01-4 [U]
49	ES-719451	SW SKELETON
50	ES-336780	SW TACT SKHHAJ004A
51	ET-308472	TR 2SA1115 E,F,G F05
52	ET-372109	TR 2SA1161
53	ET-347738	TR 2SA1282A E,F F05
54	ET-308141	TR 2SC2603 G F05
55	ET-349272	TR 2SC3242A E,F F05
56	ET-357845	TR 2SC3242A F,G F05
57	ET-349081	TR 2SC3383 S,T
58	MB-719453	BELT LOADING

CD MECHA BLOCK



2. CD MECHA CDM2 (P2009) BLOCK

Ref. No.	Part No.	Description
2-1	BB-369220	MECHA CD CDM2 (P2009)

3. CD LOADING MECHA (P2009) BLOCK

Ref. No.	Part No.	Description
3-1	BB-369221	MECHA CD LOADING P2009
3-2	ES-719451	SW SKELETON
3-3	MB-719453	BELT LOADING
3-4	BM-719452	MOTOR LOADING
3-5	SC-719454	DISC TRAY

4. P.C BOARD BLOCK

Ref. No.	Part No.	Description
4-1A	BA-P2009A020A	PC MAIN BLK CD-M300(U)
4-1B	BA-P2009A020B	PC MAIN BLK CD-M300(C,A)
4-1C	BA-P2009A020C	PC MAIN BLK CD-M300(E,B,S)
4-2	BA-P2009A040A	PC SERVO BLK CD-M300
4-3	BA-P2009A050A	PC(#) OPERATION BLK CD-M300

PC OPERATION BLK CONSISTS OF FOLLOWING P.C BOARD.

*OPERATION P.C BOARD
*OPERATION KEY P.C BOARD
*LED P.C BOARD

5. MAIN P.C BOARD

Ref. No.	Part No.	Description
5-C57	EC-365589	C EC V CUT AS1 682M 16.0DC
5-C64	*EC-320548	C CE V F 103Z 250AC [U]
5-C64A	*EC-338411	C CE V FZ 103P 400AC [C,A,E,B,S]
5-D1	ED-344280	D SILICON H GMA-01-FY2 F05
5-D2	ED-361055	D SILICON DS135E-UB1
5-D3	*ED-346593	D ZENER H HZ3 B1
5-D4	*ED-361055	D SILICON DS135E-UB1
5-D5	*ED-361055	D SILICON DS135E-UB1
5-D6	*ED-361055	D SILICON DS135E-UB1
5-D7	*ED-361055	D SILICON DS135E-UB1
5-D8	*ED-322238	D SILICON 1B4B41 100/1.0A
5-D9	*ED-322238	D SILICON 1B4B41 100/1.0A
5-D10	*ED-361055	D SILICON DS135E-UB1
5-D11	*ED-361055	D SILICON DS135E-UB1
5-D12	*ED-361055	D SILICON DS135E-UB1
5-D13	*ED-346593	D ZENER H HZ3 B1
5-D14	ED-346593	D ZENER H HZ3 B1
5-D15	ED-306012	D ZENER H HZ7 A3
5-FR1	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
5-FR2	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
5-FR3	*ER-366452	R FUSE RF25SJ 1/4W 4R7J
5-FR4	*ER-366452	R FUSE RF25SJ 1/4W 4R7J
5-FR5	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-FR6	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-FR7	*ER-308896	R FUSE RF25SJ 1/4W 470J
5-FR8	*ER-308896	R FUSE RF25SJ 1/4W 470J
5-FR9	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-FR10	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-IB1	EH-365289	COMP R RKC1/8B11 223J
5-IC1	EI-372119	IC MAB8441 T078
5-IC2	EI-369209	IC SAA7210
5-IC3	EI-369210	IC MB81416-12
5-IC4	EI-371852	IC TDA1541-N5
5-IC5	EI-362588	IC M5238P
5-IC6	EI-349719	IC M5218P
5-IC7	*EI-369212	IC TA78L015AP
5-IC8	*EI-315243	IC TA78005AP
5-IC9	*EI-367186	IC TA79L006P
5-IC10	*EI-369215	IC TA79L015P
5-TR1	ET-308141	TR 2SC2603 G F05
5-TR2	ET-308472	TR 2SA1115 E,F,G F05
5-TR3	ET-349081	TR 2SC3383 S,T
5-TR4	ET-349081	TR 2SC3383 S,T
5-TR5	ET-349081	TR 2SC3383 S,T
5-TR6	*ET-308472	TR 2SA1115 E,F,G F05
5-TR7	*ET-308141	TR 2SC2603 G F05
5-TR8	*ET-308141	TR 2SC2603 G F05
5-TR9	*ET-308472	TR 2SA1115 E,F,G F05
5-TR10	ET-308141	TR 2SC2603 G F05
5-TR11	ET-349081	TR 2SC3383 S,T
5-TR12	ET-308472	TR 2SA1115 E,F,G F05
5-TR13	ET-308472	TR 2SA1115 E,F,G F05
5-TR14	ET-372109	TR 2SA1161
5-VL1	EO-362920	COIL VARI 1 25-5430-13 WHITE
5-VL2	EO-362921	COIL VARI 1 25-5431-13 RED
5-VL3	EO-362922	COIL VARI 1 25-5432-13 BLACK
5-VS1	*ES-344274	SW SELECT HXW0244-01-060 01-4 [U]
5-X1	EI-347991	OSC CE CSA6.00MS 6MHZ
5-X2	EI-369216	OSC X'TAL P2009 11.2896MHZ
5-F1A	*EF-339902	FUSE SEMKO T 250V 100MA [E,S]
5-F2A	*EF-339902	FUSE SEMKO T 250V 100MA [E,S]
5-F3A	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
5-F4A	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
5-F1B	*EF-360723	FUSE BET T 250V 100MA [B]
5-F2B	*EF-360723	FUSE BET T 250V 100MA [B]
5-F3B	*EF-358641	FUSE BET T 250V 800MA [B]
5-F4B	*EF-358641	FUSE BET T 250V 800MA [B]

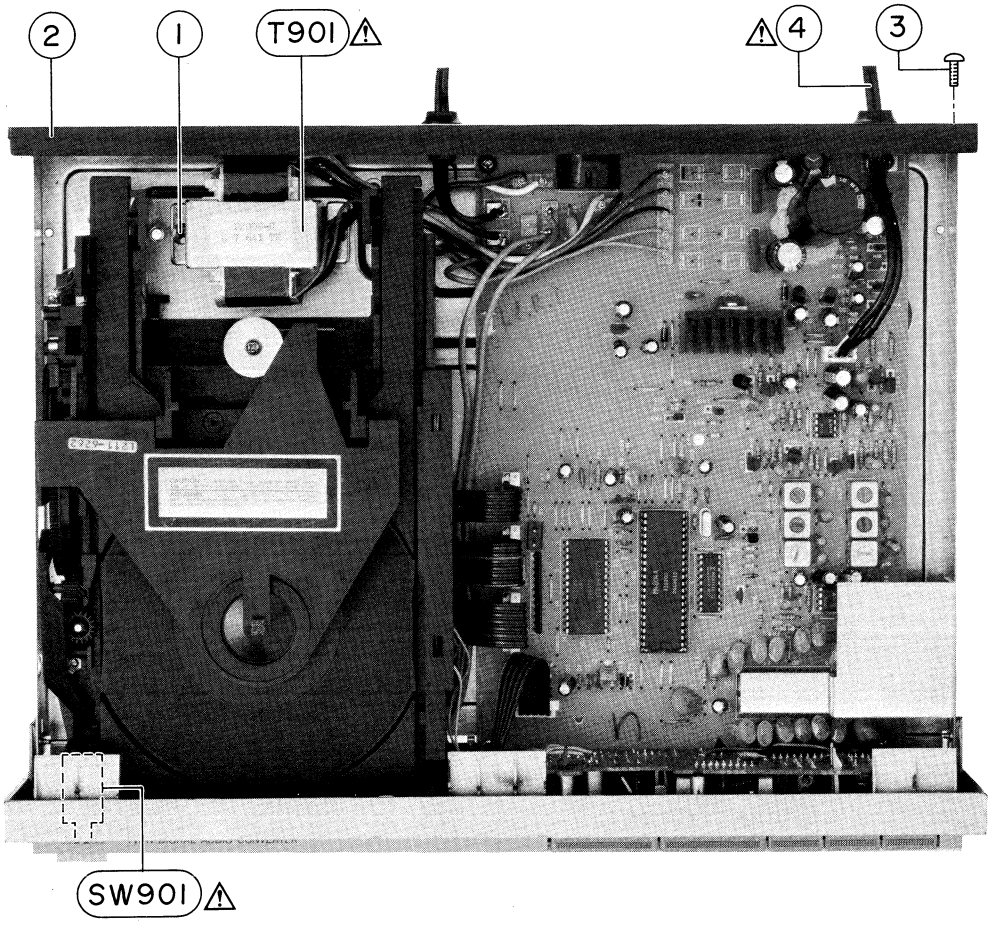
6. SERVO P.C BOARD

Ref. No.	Part No.	Description
6-C17	EC-334402	C STY V S05 CQFS 472J 50DC
6-C23	EC-361245	C PP V F05 PP 272J 50DC
6-C24	EC-361245	C PP V F05 PP 272J 50DC
6-C48	EC-334402	C STY V S05 CQFS 472J 50DC
6-D1	ED-346605	D ZENER H HZ7 C2
6-D2	ED-346605	D ZENER H HZ7 C2
6-D3	ED-371381	D SILICON H 1N4148
6-D4	ED-344280	D SILICON H GMA-01-FY2 F05
6-D5	ED-344280	D SILICON H GMA-01-FY2 F05
6-D6	ED-344280	D SILICON H GMA-01-FY2 F05
6-FR3	*ER-349424	R FUSE ERD2FC S10 1/4W 18R0G
6-FR4	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
6-FR5	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
6-FR6	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
6-IC1	EI-369205	IC TDA5708
6-IC2	EI-369206	IC TDA5709
6-IC3	EI-369284	IC SGSL272M
6-IC4	EI-307789	IC NJM4560D
6-TR1	ET-357845	TR 2SC3242A F,G F05
6-TR2	ET-308472	TR 2SA1115 E,F,G F05
6-VR1	EV-522404	R S-FIX V V8K1-1 3P 102
6-VR2	EV-464264	R S-FIX V V8K1-1 3P 503

7. OPERATION P.C BOARD

Ref. No.	Part No.	Description
7-D1	ED-344280	D SILICON H GMA-01-FY2 F05
7-D2	ED-249377	D LED GL-3AR1 RED
7-D3	ED-249377	D LED GL-3AR1 RED
7-D5	ED-330962	D ZENER H HZ4 C1
7-D6	ED-330962	D ZENER H HZ4 C1
7-FR1	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
7-FR2	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
7-FR3	*ER-369300	R FUSE RF25SJ 1/4W 3R3J
7-FR4	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
7-IC1	EI-369225	IC MAB8441P T018
7-IC2	EM-370414	IND LE LTM-8328G CHARACTOR
7-TR1	ET-347738	TR 2SA1282A E,F F05
7-TR2	ET-347738	TR 2SA1282A E,F F05
7-TR3	ET-349272	TR 2SC3242A E,F F05
7-TR4	ET-349272	TR 2SC3242A E,F F05
7-TR5	ET-347738	TR 2SA1282A E,F F05
7-X1	EI-347991	OSC CE CSA6.00MS 6MHZ

ASSEMBLY BLOCK



8. OPERATION KEY P.C BOARD

Ref. No.	Part No.	Description
8-TS1	ES-336780	SW TACT SKHHAJ004A
8-TS2	ES-336780	SW TACT SKHHAJ004A
8-TS3	ES-336780	SW TACT SKHHAJ004A
8-TS4	ES-336780	SW TACT SKHHAJ004A
8-TS5	ES-336780	SW TACT SKHHAJ004A
8-TS6	ES-336780	SW TACT SKHHAJ004A
8-TS7	ES-336780	SW TACT SKHHAJ004A
8-TS8	ES-336780	SW TACT SKHHAJ004A
8-TS9	ES-336780	SW TACT SKHHAJ004A

9. LED P.C BOARD

Ref. No.	Part No.	Description
9-D4	ED-370415	D LED SLR-34DT5F

10. ASSEMBLY BLOCK

Ref. No.	Part No.	Description
10-1	ZS-313796	ST BID40X06STL CMT [POWER TRANS FIX]
10-2A	SP-359777G	PANEL REAR CD-M300(U)
10-2B	SP-359777H	PANEL REAR CD-M300(C,A)
10-2C	SP-359777N	PANEL REAR CD-M300(E)
10-2D	SP-359777K	PANEL REAR CD-M300(B,S)
10-3	ZS-353355	CT BR30X06STL BZN PROJECTION [REAR PANEL FIX]
10-4A	*EW-363659	AC CORD 200 0129AVFF B070 A U/T [U]
10-4B	*EW-363801	AC CORD 200 0238PSPT1 B070 A UC [C,A]
10-4C	*EW-363672	AC CORD 200 0364 LCFL B070 A EV [E]
10-4D	*EW-363684	AC CORD 200 LCFL B070 A B [B]
10-4E	*EW-363698	AC CORD 200 0436 LCFL B070 A S [S]
10-5A	EW-365424	CORD SAE-060 2P AUDIO CORD [U,C,E,B,S]
10-5B	EW-365425	CORD SAE-061 2P AUDIO CORD UL [A]
10-SW901	*ES-361797	SW PUSH SDDLD1
10-T901A	*BT-369200	TRANS POWER P2009(U)
10-T901B	*BT-369201	TRANS POWER P2009(C,A)
10-T901C	*BT-369203	TRANS POWER P2009(E,V)
10-T901D	*BT-369204	TRANS POWER P2009(B,S)

4. P.C BOARD BLOCK

Ref. No.	Part No.	Description
4-1A	BA-P2009A020A	PC MAIN BLK CD-M300(U)
4-1B	BA-P2009A020B	PC MAIN BLK CD-M300(C,A)
4-1C	BA-P2009A020C	PC MAIN BLK CD-M300(E,B,S)
4-2	BA-P2009A040A	PC SERVO BLK CD-M300
4-3	BA-P2009A050A	PC(#) OPERATION BLK CD-M300

PC OPERATION BLK CONSISTS OF FOLLOWING P.C BOARD.

*OPERATION P.C BOARD
*OPERATION KEY P.C BOARD
*LED P.C BOARD

5. MAIN P.C BOARD

Ref. No.	Part No.	Description
5-C57	EC-365589	C EC V CUT AS1 682M 16.0DC
5-C64	*EC-320548	C CE V F 103Z 250AC [U]
5-C64A	*EC-338411	C CE V FZ 103P 400AC [C,A,E,B,S]
5-D1	ED-344280	D SILICON H GMA-01-FY2 F05
5-D2	ED-361055	D SILICON DS135E-UB1
5-D3	*ED-346593	D ZENER H HZ3 B1
5-D4	*ED-361055	D SILICON DS135E-UB1
5-D5	*ED-361055	D SILICON DS135E-UB1
5-D6	*ED-361055	D SILICON DS135E-UB1
5-D7	*ED-361055	D SILICON DS135E-UB1
5-D8	*ED-322238	D SILICON 1B4B41 100/1.0A
5-D9	*ED-322238	D SILICON 1B4B41 100/1.0A
5-D10	*ED-361055	D SILICON DS135E-UB1
5-D11	*ED-361055	D SILICON DS135E-UB1
5-D12	*ED-361055	D SILICON DS135E-UB1
5-D13	*ED-346593	D ZENER H HZ3 B1
5-D14	ED-346593	D ZENER H HZ3 B1
5-D15	ED-306012	D ZENER H HZ7 A3
5-FR1	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
5-FR2	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
5-FR3	*ER-366452	R FUSE RF25SJ 1/4W 4R7J
5-FR4	*ER-366452	R FUSE RF25SJ 1/4W 4R7J
5-FR5	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-FR6	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-FR7	*ER-308896	R FUSE RF25SJ 1/4W 470J
5-FR8	*ER-308896	R FUSE RF25SJ 1/4W 470J
5-FR9	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-FR10	*ER-305791	R FUSE RF25SJ 1/4W 100J
5-IB1	EH-365289	COMP R RKC1/8B11 223J
5-IC1	EI-372119	IC MAB8441 T078
5-IC2	EI-369209	IC SAA7210
5-IC3	EI-369210	IC MB81416-12
5-IC4	EI-371852	IC TDA1541-N5
5-IC5	EI-362588	IC M5238P
5-IC6	EI-349719	IC M5218P
5-IC7	*EI-369212	IC TA78L015AP
5-IC8	*EI-315243	IC TA78005AP
5-IC9	*EI-367186	IC TA79L006P
5-IC10	*EI-369215	IC TA79L015P
5-TR1	ET-308141	TR 2SC2603 G F05
5-TR2	ET-308472	TR 2SA1115 E,F,G F05
5-TR3	ET-349081	TR 2SC3383 S,T
5-TR4	ET-349081	TR 2SC3383 S,T
5-TR5	ET-349081	TR 2SC3383 S,T
5-TR6	*ET-308472	TR 2SA1115 E,F,G F05
5-TR7	*ET-308141	TR 2SC2603 G F05
5-TR8	*ET-308141	TR 2SC2603 G F05
5-TR9	*ET-308472	TR 2SA1115 E,F,G F05
5-TR10	ET-308141	TR 2SC2603 G F05
5-TR11	ET-349081	TR 2SC3383 S,T
5-TR12	ET-308472	TR 2SA1115 E,F,G F05
5-TR13	ET-308472	TR 2SA1115 E,F,G F05
5-TR14	ET-372109	TR 2SA1161
5-VL1	EO-362920	COIL VARI 1 25-5430-13 WHITE
5-VL2	EO-362921	COIL VARI 1 25-5431-13 RED
5-VL3	EO-362922	COIL VARI 1 25-5432-13 BLACK
5-VS1	*ES-344274	SW SELECT HXW0244-01-060 01-4 [U]
5-X1	EI-347991	OSC CE CSA6.00MS 6MHZ
5-X2	EI-369216	OSC X'TAL P2009 11.2896MHZ
5-F1A	*EF-339902	FUSE SEMKO T 250V 100MA [E,S]
5-F2A	*EF-339902	FUSE SEMKO T 250V 100MA [E,S]
5-F3A	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
5-F4A	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
5-F1B	*EF-360723	FUSE BET T 250V 100MA [B]
5-F2B	*EF-360723	FUSE BET T 250V 100MA [B]
5-F3B	*EF-358641	FUSE BET T 250V 800MA [B]
5-F4B	*EF-358641	FUSE BET T 250V 800MA [B]

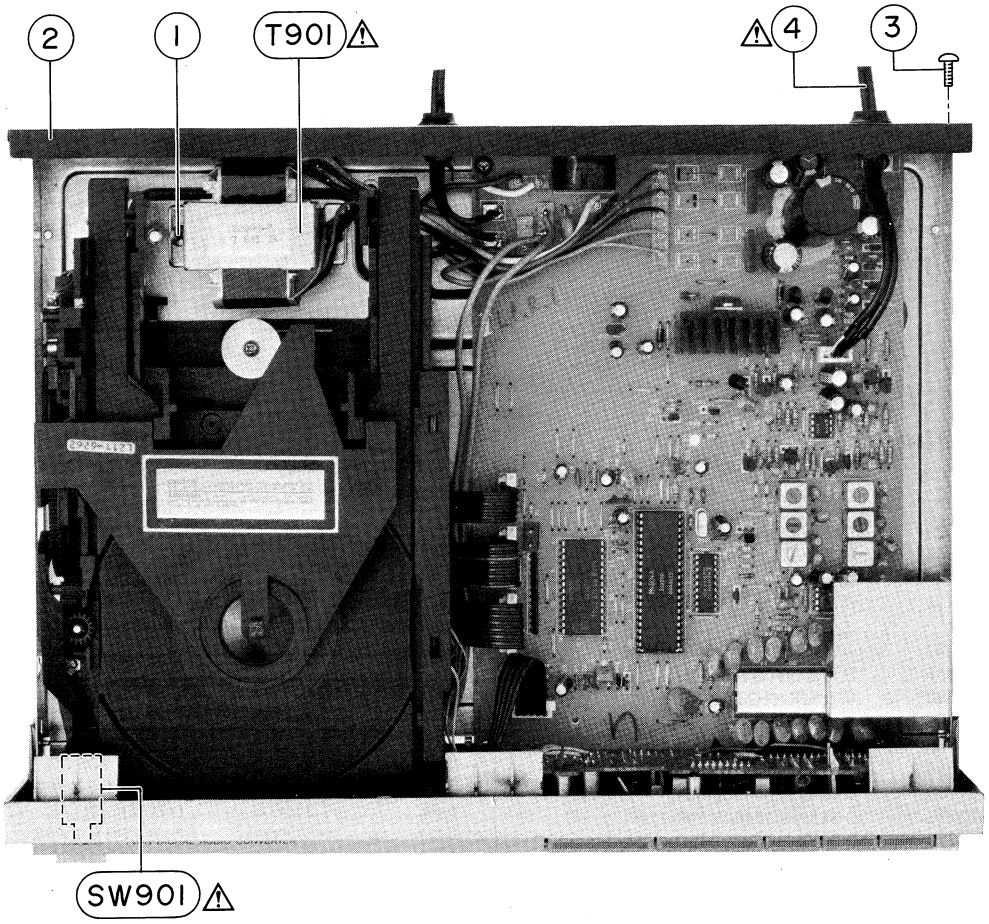
6. SERVO P.C BOARD

Ref. No.	Part No.	Description
6-C17	EC-334402	C STY V S05 CQFS 472J 50DC
6-C23	EC-361245	C PP V F05 PP 272J 50DC
6-C24	EC-361245	C PP V F05 PP 272J 50DC
6-C48	EC-334402	C STY V S05 CQFS 472J 50DC
6-D1	ED-346605	D ZENER H HZ7 C2
6-D2	ED-346605	D ZENER H HZ7 C2
6-D3	ED-371381	D SILICON H 1N4148
6-D4	ED-344280	D SILICON H GMA-01-FY2 F05
6-D5	ED-344280	D SILICON H GMA-01-FY2 F05
6-D6	ED-344280	D SILICON H GMA-01-FY2 F05
6-FR3	*ER-349424	R FUSE ERD2FC S10 1/4W 18R0G
6-FR4	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
6-FR5	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
6-FR6	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
6-IC1	EI-369205	IC TDA5708
6-IC2	EI-369206	IC TDA5709
6-IC3	EI-369284	IC SGSL272M
6-IC4	EI-307789	IC NJM4560D
6-TR1	ET-357845	TR 2SC3242A F,G F05
6-TR2	ET-308472	TR 2SA1115 E,F,G F05
6-VR1	EV-522404	R S-FIX V V8K1-1 3P 102
6-VR2	EV-464264	R S-FIX V V8K1-1 3P 503

7. OPERATION P.C BOARD

Ref. No.	Part No.	Description
7-D1	ED-344280	D SILICON H GMA-01-FY2 F05
7-D2	ED-249377	D LED GL-3AR1 RED
7-D3	ED-249377	D LED GL-3AR1 RED
7-D5	ED-330962	D ZENER H HZ4 C1
7-D6	ED-330962	D ZENER H HZ4 C1
7-FR1	*ER-369294	R FUSE RF25SJ 1/4W 1R0J
7-FR2	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
7-FR3	*ER-369300	R FUSE RF25SJ 1/4W 3R3J
7-FR4	*ER-325381	R FUSE RF25SJ 1/4W 2R2J
7-IC1	EI-369225	IC MAB8441P T018
7-IC2	EM-370414	IND LE LTM-8328G CHARACTOR
7-TR1	ET-347738	TR 2SA1282A E,F F05
7-TR2	ET-347738	TR 2SA1282A E,F F05
7-TR3	ET-349272	TR 2SC3242A E,F F05
7-TR4	ET-349272	TR 2SC3242A E,F F05
7-TR5	ET-347738	TR 2SA1282A E,F F05
7-X1	EI-347991	OSC CE CSA6.00MS 6MHZ

ASSEMBLY BLOCK



8. OPERATION KEY P.C BOARD

Ref. No.	Part No.	Description
8-TS1	ES-336780	SW TACT SKHHAJ004A
8-TS2	ES-336780	SW TACT SKHHAJ004A
8-TS3	ES-336780	SW TACT SKHHAJ004A
8-TS4	ES-336780	SW TACT SKHHAJ004A
8-TS5	ES-336780	SW TACT SKHHAJ004A
8-TS6	ES-336780	SW TACT SKHHAJ004A
8-TS7	ES-336780	SW TACT SKHHAJ004A
8-TS8	ES-336780	SW TACT SKHHAJ004A
8-TS9	ES-336780	SW TACT SKHHAJ004A

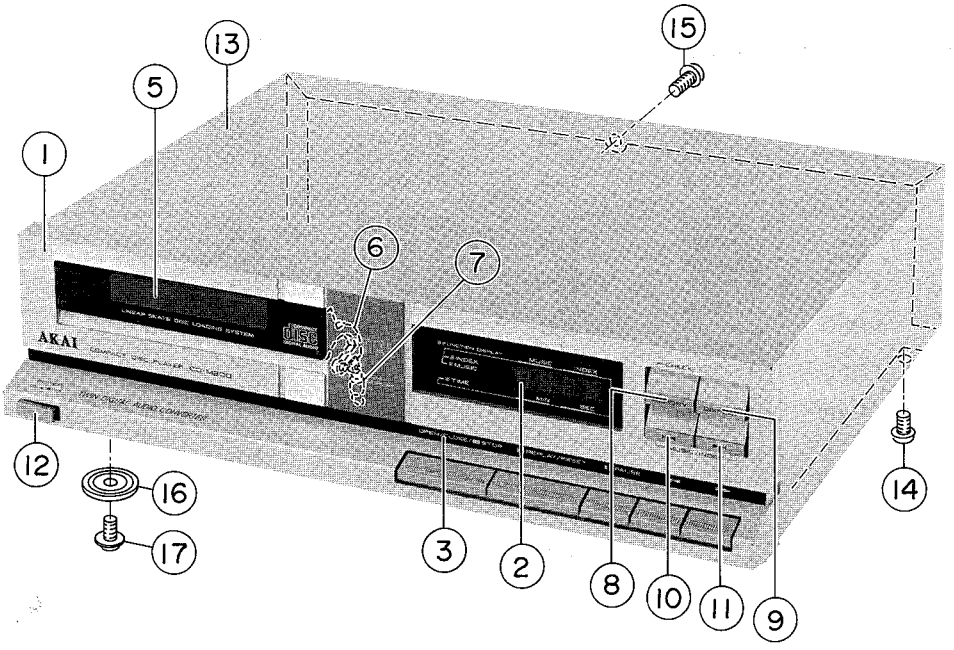
9. LED P.C BOARD

Ref. No.	Part No.	Description
9-D4	ED-370415	D LED SLR-34DT5F

10. ASSEMBLY BLOCK

Ref. No.	Part No.	Description
10-1	ZS-313796	ST BID40X06STL CMT [POWER TRANS FIX]
10-2A	SP-359777G	PANEL REAR CD-M300(U)
10-2B	SP-359777H	PANEL REAR CD-M300(C,A)
10-2C	SP-359777N	PANEL REAR CD-M300(E)
10-2D	SP-359777K	PANEL REAR CD-M300(B,S)
10-3	ZS-353355	CT BR30X06STL BZN PROJECTION [REAR PANEL FIX]
10-4A	*EW-363659	AC CORD 200 0129AVFF B070 A U/T [U]
10-4B	*EW-363801	AC CORD 200 0238PSPT1 B070 A UC [C,A]
10-4C	*EW-363672	AC CORD 200 0364 LCFL B070 A EV [E]
10-4D	*EW-363684	AC CORD 200 LCFL B070 A B [B]
10-4E	*EW-363698	AC CORD 200 0436 LCFL B070 A S [S]
10-5A	EW-365424	CORD SAE-060 2P AUDIO CORD [U,C,E,B,S]
10-5B	EW-365425	CORD SAE-061 2P AUDIO CORD UL [A]
10-SW901	*ES-361797	SW PUSH SDDLD1
10-T901A	*BT-369200	TRANS POWER P2009(U)
10-T901B	*BT-369201	TRANS POWER P2009(C,A)
10-T901C	*BT-369203	TRANS POWER P2009(E,V)
10-T901D	*BT-369204	TRANS POWER P2009(B,S)

FINAL ASSEMBLY BLOCK



11. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
11-1S	BD-B369078A	PANEL FRONT PART CD-M300
11-1-B	BD-B369078B	PANEL FRONT-B PART CD-M300
11-1-W	BD-B369078D	PANEL FRONT-W PART CD-M300
11-2	SZ-369161	WINDOW LED
11-3	SE-369162	FRONT PLATE
11-4X	MB-369157	RUBBER STOPPER
11-5	SP-369158	PANEL DOOR
11-6	SZ-369159-A	HOLDER PANEL DOOR
11-7	ZG-365751	SP DOOR STOPPER-2
11-8S	SK-369637G-A	KNOB FUNCTION MEMORY
11-8-B	SK-369637H	KNOB FUNCTION MEMORY-B
11-8-W	SK-369637G-A	KNOB FUNCTION MEMORY
11-9S	SK-369637J-A	KNOB FUNCTION DISPLAY
11-9-B	SK-369637K	KNOB FUNCTION DISPLAY-B
11-9-W	SK-369637J-A	KNOB FUNCTION DISPLAY
11-10S	SK-369637L-A	KNOB FUNCTION SKIP (1)
11-10-B	SK-369637M	KNOB FUNCTION SKIP (1)-B
11-10-W	SK-369637L-A	KNOB FUNCTION SKIP (1)
11-11S	SK-369637N-A	KNOB FUNCTION SKIP (2)
11-11-B	SK-369637P	KNOB FUNCTION SKIP (2)-B
11-11-W	SK-369637N-A	KNOB FUNCTION SKIP (2)
11-12S	SB-358882D-A	BUTTON PUSH (4)
11-12-B	SB-358882C-A	BUTTON PUSH (3)
11-12-W	SB-358882B-B	BUTTON PUSH(2)
11-13S	SP-369076A	COVER UPPER
11-13-B	SP-369076B	COVER UPPER-B
11-13-W	SP-369076E	COVER UPPER-W
11-14	ZS-320906	ST BR30X06STL CMT [UPPER COVER FIX]
11-15-S	ZS-343165	CT BR30X06STL CMT
11-15-B	ZS-353355	CT BR30X06STL BZN PROJECTION
11-16	SA-349332	FOOT
11-17	ZS-344754	ST PAN30X06STL CMT C080

SYMBOL FOR COLOR VARIATION

S: SILVER
B: BLACK
W: WHITE

INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
BA-P2009A020A	4-1A	EI-307789	6-IC4	ET-308141	54		
BA-P2009A020B	4-1B	EI-315243	23	ET-308141	5-TR1		
BA-P2009A020C	4-1C	EI-315243	5-IC8	ET-308141	5-TR7		
BA-P2009A040A	4-2	EI-347991	37	ET-308141	5-TR8		
BA-P2009A050A	4-3	EI-347991	5-X1	ET-308141	5-TR10		
BB-369220	1	EI-347991	7-X1	ET-308472	51		
BB-369220	2-1	EI-349719	29	ET-308472	5-TR2		
BB-369221	2	EI-349719	5-IC6	ET-308472	5-TR6		
BB-369221	3-1	EI-362588	30	ET-308472	5-TR9		
BD-B369078A	11-1S	EI-362588	5-IC5	ET-308472	5-TR12		
BD-B369078B	11-1-B	EI-367186	24	ET-308472	5-TR13		
BD-B369078D	11-1-W	EI-367186	5-IC9	ET-308472	6-TR2		
BM-719452	3	EI-369205	35	ET-347738	53		
BM-719452	3-4	EI-369205	6-IC1	ET-347738	7-TR1		
BT-369200	7	EI-369206	36	ET-347738	7-TR2		
BT-369200	10-T901A	EI-369206	6-IC2	ET-347738	7-TR5		
BT-369201	5	EI-369209	32	ET-349081	57		
BT-369201	10-T901B	EI-369209	5-IC2	ET-349081	5-TR3		
BT-369203	6	EI-369210	28	ET-349081	5-TR4		
BT-369203	10-T901C	EI-369210	5-IC3	ET-349081	5-TR5		
BT-369204	4	EI-369212	22	ET-349081	5-TR11		
BT-369204	10-T901D	EI-369212	5-IC7	ET-349272	55		
EC-320548	5-C64	EI-369215	25	ET-349272	7-TR3		
EC-334402	6-C17	EI-369215	5-IC10	ET-349272	7-TR4		
EC-334402	6-C48	EI-369216	38	ET-357845	56		
EC-338411	5-C64A	EI-369216	5-X2	ET-357845	6-TR1		
EC-361245	6-C23	EI-369225	27	ET-372109	52		
EC-361245	6-C24	EI-369225	7-IC1	ET-372109	5-TR14		
EC-365589	5-C57	EI-369284	33	EV-464264	6-VR2		
ED-249377	9	EI-369284	6-IC3	EV-522404	6-VR1		
ED-249377	7-D2	EI-371852	34	EW-363659	10-4A		
ED-249377	7-D3	EI-371852	5-IC4	EW-363672	10-4C		
ED-306012	16	EI-372119	26	EW-363684	10-4D		
ED-306012	5-D15	EI-372119	5-IC1	EW-363698	10-4E		
ED-322238	8	EM-370414	39	EW-363801	10-4B		
ED-322238	5-D8	EM-370414	7-IC2	EW-365424	10-5A		
ED-322238	5-D9	EO-362920	5-VL1	EW-365425	10-5B		
ED-330962	15	EO-362921	5-VL2	MB-369157	11-4X		
ED-330962	7-D5	EO-362922	5-VL3	MB-719453	58		
ED-330962	7-D6	ER-305791	42	MB-719453	3-3		
ED-344280	12	ER-305791	5-FR5	SA-349332	11-16		
ED-344280	5-D1	ER-305791	5-FR6	SB-358882B-B	11-12-W		
ED-344280	6-D4	ER-305791	5-FR9	SB-358882C-A	11-12-B		
ED-344280	6-D5	ER-305791	5-FR10	SB-358882D-A	11-12S		
ED-344280	6-D6	ER-308896	46	SC-719454	3-5		
ED-344280	7-D1	ER-308896	5-FR7	SE-369162	11-3		
ED-346593	14	ER-308896	5-FR8	SK-369637G-A	11-8S		
ED-346593	5-D3	ER-325381	43	SK-369637G-A	11-8-W		
ED-346593	5-D13	ER-325381	5-FR1	SK-369637H	11-8-B		
ED-346593	5-D14	ER-325381	7-FR2	SK-369637J-A	11-9S		
ED-346605	17	ER-325381	7-FR4	SK-369637J-A	11-9-W		
ED-346605	6-D1	ER-348272	40	SK-369637K	11-9-B		
ED-346605	6-D2	ER-348272	6-FR4	SK-369637L-A	11-10S		
ED-361055	11	ER-349424	41	SK-369637L-A	11-10-W		
ED-361055	5-D2	ER-349424	6-FR3	SK-369637M	11-10-B		
ED-361055	5-D4	ER-366452	45	SK-369637N-A	11-11S		
ED-361055	5-D5	ER-366452	5-FR3	SK-369637N-A	11-11-W		
ED-361055	5-D6	ER-366452	5-FR4	SK-369637P	11-11-B		
ED-361055	5-D7	ER-369294	5-FR2	SP-359777G	10-2A		
ED-361055	5-D10	ER-369294	6-FR5	SP-359777H	10-2B		
ED-361055	5-D11	ER-369294	6-FR6	SP-359777K	10-2D		
ED-361055	5-D12	ER-369294	7-FR1	SP-359777N	10-2C		
ED-370415	10	ER-369300	44	SP-369076A	11-13S		
ED-370415	9-D4	ER-369300	7-FR3	SP-369076B	11-13-B		
ED-371381	13	ES-336780	50	SP-369076E	11-13-W		
ED-371381	6-D3	ES-336780	8-TS1	SP-369158	11-5		
EF-258344	21	ES-336780	8-TS2	SZ-369159-A	11-6		
EF-258344	5-F3A	ES-336780	8-TS3	SZ-369161	11-2		
EF-258344	5-F4A	ES-336780	8-TS4	ZG-365751	11-7		
EF-339902	20	ES-336780	8-TS5	ZS-313796	10-1		
EF-339902	5-F1A	ES-336780	8-TS6	ZS-320906	11-14		
EF-339902	5-F2A	ES-336780	8-TS7	ZS-343165	11-15-S		
EF-358641	19	ES-336780	8-TS8	ZS-344754	11-17		
EF-358641	5-F3B	ES-336780	8-TS9	ZS-353355	10-3		
EF-358641	5-F4B	ES-344274	48	ZS-353355	11-15-B		
EF-360723	18	ES-344274	5-VS1				
EF-360723	5-F1B	ES-361797	47				
EF-360723	5-F2B	ES-361797	10-SW901				
EH-365289	5-IB1	ES-719451	49				
EI-307789	31	ES-719451	3-2				

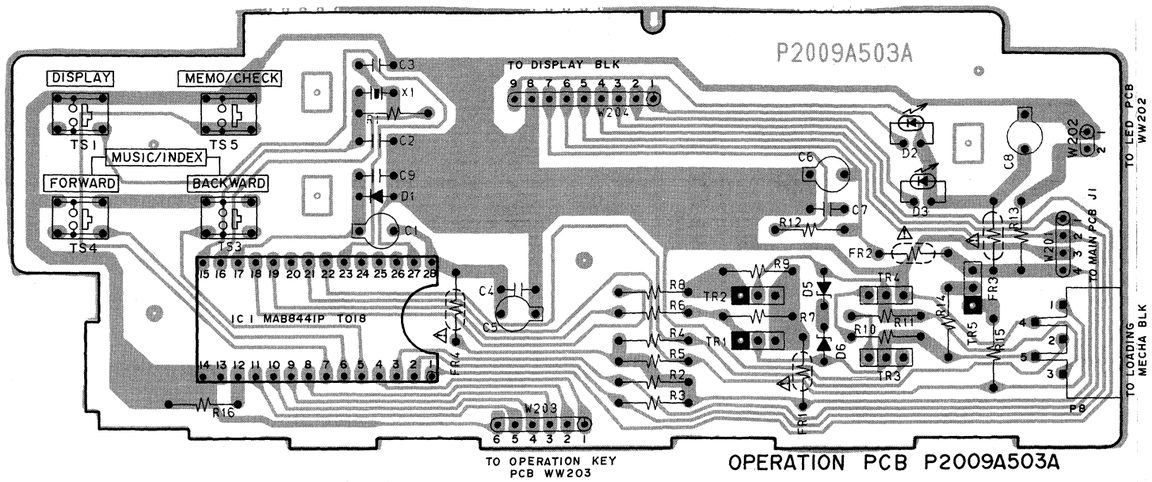
ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Motor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M^2FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-1	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-OR	EXclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R,R_1,R_2, etc.	Data for Right Channel
f	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H&V (Parity)	Horizontal & Vertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S&H	Sample & Hold
kb	Kilo Bits	S/N	Signal to Noise Ratio
L,L_1,L_2, etc.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYS CON	SYStem CONtrol
LSB	Least Significant Bit		

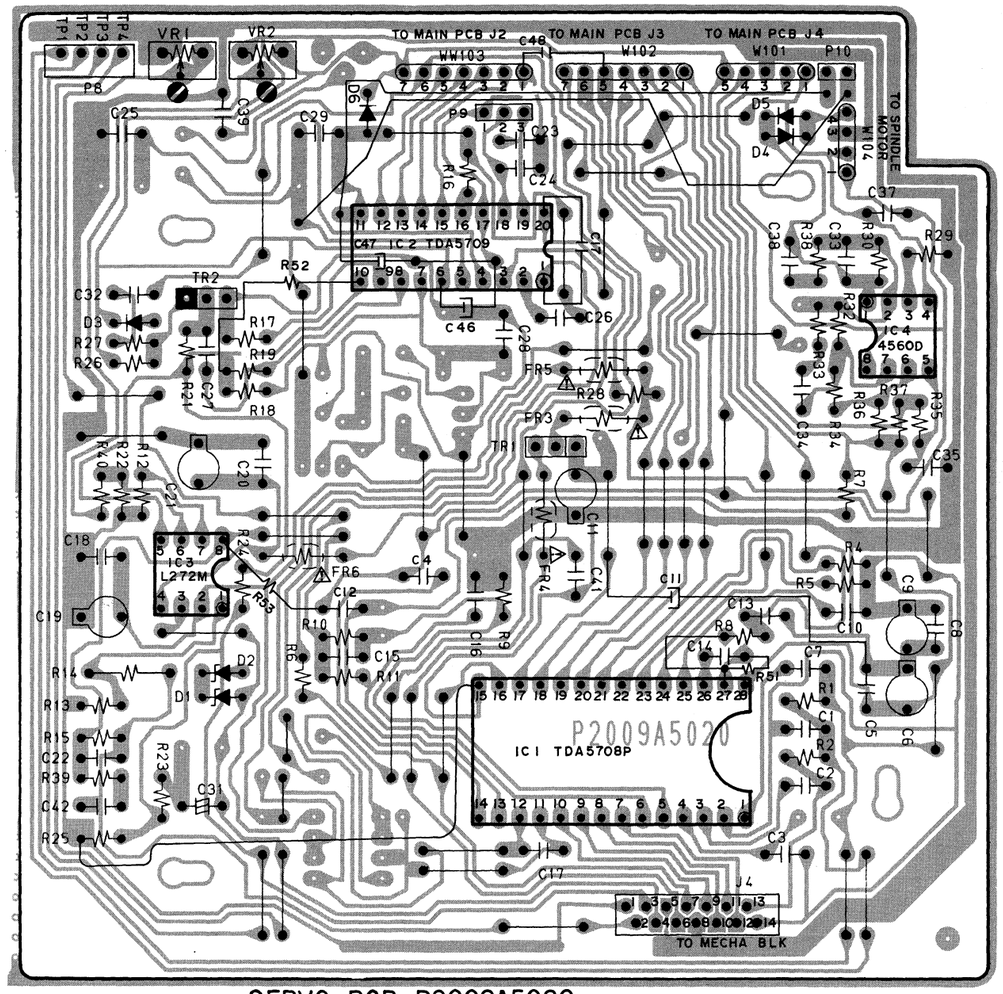
AKAI

MODEL CD-M300

SCHEMATIC DIAGRAM
AND PC BOARDS



OPERATION PCB P2009A503A



SERVO PCB P2009A5020

2SA1282---TR1, TR2, TR5
2SC3242---TR3, TR4

= PNP TRANSISTER

= NPN TRANSISTER

E C B
2SA1282
2SC3242

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

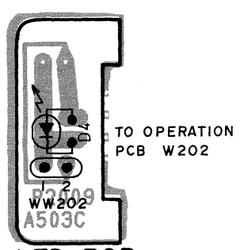
2SC3242---TR1
2SA1115---TR2

= PNP TRANSISTER

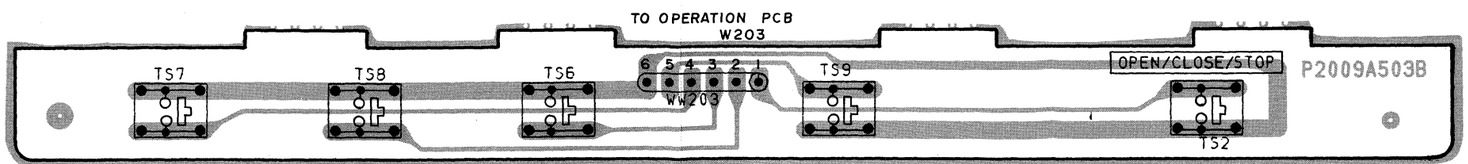
= NPN TRANSISTER

E C B
2SC3242

E C B
2SA1115

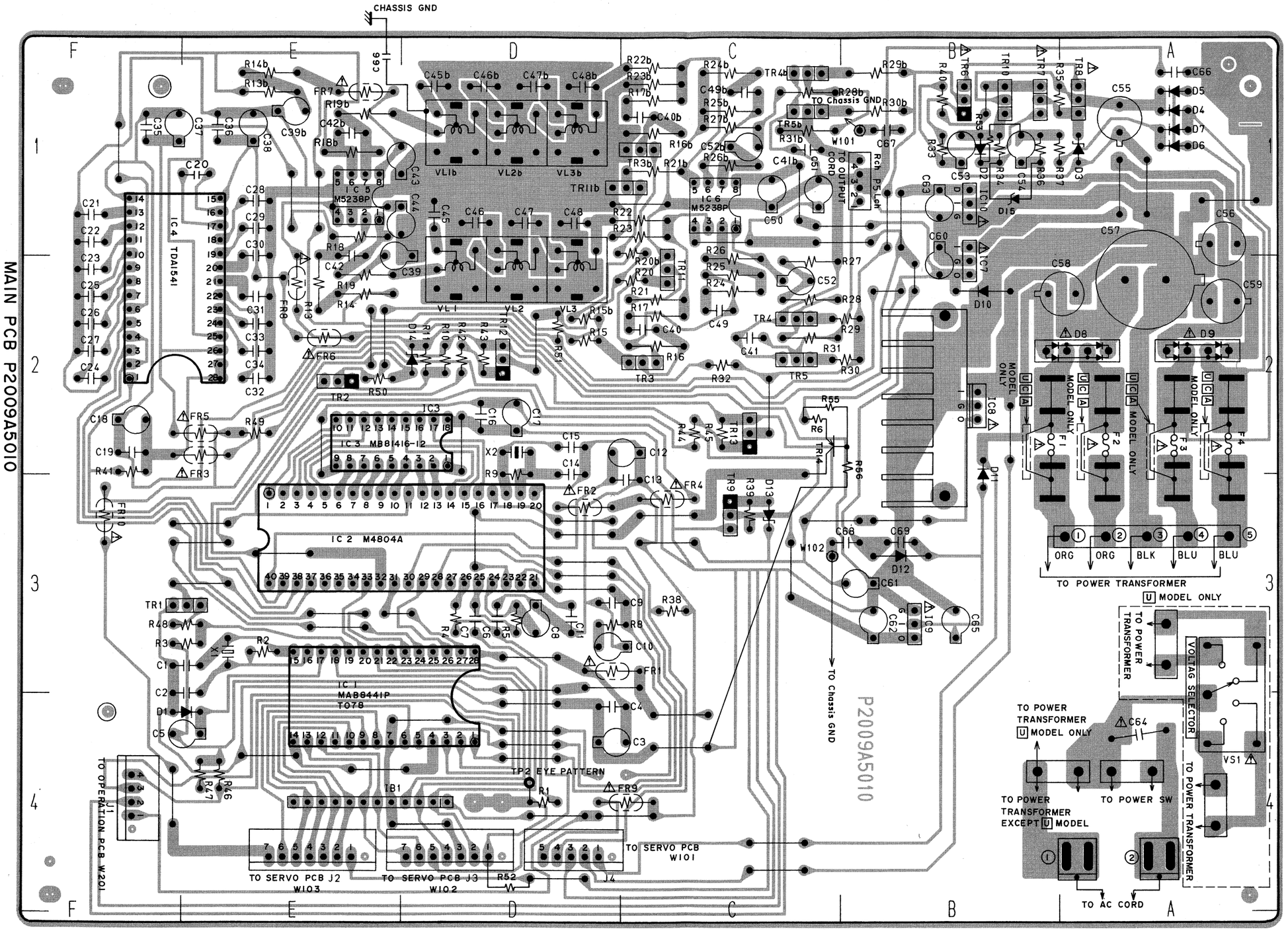


LED PCB
P2009A503C



OPERATION KEY PCB P2009A503B

MAIN PCB P2009A5010



LOCATION OF COMPONETS

IC1....E4	TR1....E3	TR14...C2
IC2....D3	TR2....E2	
IC3....E2	TR3....C1	
IC4....F2	TR3b...C1	
IC5....E1	TR4....C2	
IC6....C1	TR4b...C1	
IC7....B2	TR5....C2	
IC8....B2	TR5b...C1	
IC9....B3	TR6....B1	
IC10...B1	TR7....B1	
	TR8....A1	
	TR9....C3	
	TR10...B1	
	TR12...D2	
	TR13...C2	

2SA1161....TR14
2SA1115....TR2,TR6, TR9,TR12, TR13
2SC2603....TR1,TR7, TR8,TR10
2SC3383....TR3,TR3b, TR4,TR4b, TR5,TR5b, TR11,TR11b

= PNP TRANSISTER
= NPN TRANSISTER

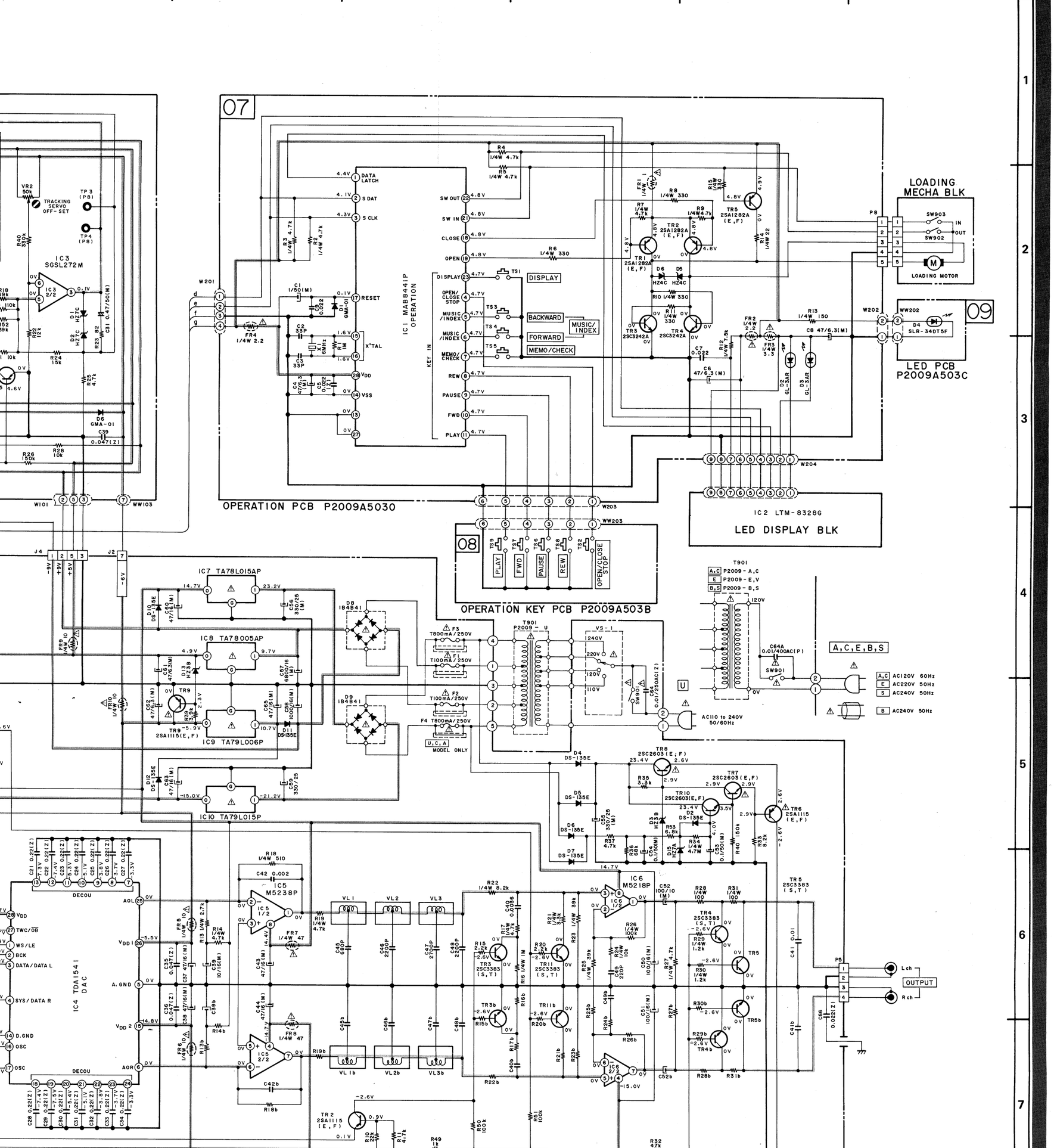
B C E
2SA1161

E C B
2SC3383

E C B
2SA1115
2SC2603

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



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AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE

UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT ACCORDING TO AREA

CD-M300 CONNECTION DIAGRAM NO. 8612111A

CD-M300

SERVO PCB P2009A5020

MAIN PCB P2009A5010

MECHA BLK CDMZ

SPINDLE MOTOR

IC1 TDA5708 PRE & SERVO

IC2 TDA5709 TRACKING SERVO

IC2 M4804A DECODER

IC3 MB81416-12 D RAM 16kx4

IC4 NJM4560D

IC4 TDA1541 DAC

IC1 MAB8441PT078 SYSCON

IC3 SGSL272M

TRACKING SERVO OFF-SET

LASER POWER

EYE PATTERN

B(POWER SUPPLY) LINE

SIGNAL LINE

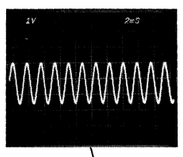
TRACKING SERVO CONTROL

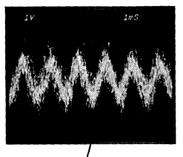
FOCUS SERVO CONTROL

WARNING: ⚠INDI
REPLA
RECOM

AVERTISSEMENT:
POUR
NE RE

A
B
C
D
E
F
1
2
3
4
5
6
7
8
IC2 M4804A
DECODER
CLOCK INTERFACE
SERIAL TO PARALLEL CONVERTER
SYNC. Tmin Tmax DETECTOR
PHASE DETECTOR
DATA SLICER
EFM DECODER
DEMOD FLAG PROCESSOR
SYNC TO CRYSTAL CLOCK
SYSTEM CLOCK GENERATOR
PARALLEL TO SERIAL CONVERTER
CHANNEL P- PROCESSOR
P-BIT DEBOUNCE
DEBOUNCE CIRCUIT
MOTOR SPEED CONTROL LOGIC
RAM INTERFACE
PRE-FIFO
DELAY
COARSE LOCKING
FREQUENCY DETECTOR AND LOCK IND. COUNTER
DEMOD TIMING
VCO 8.6MHz
MASTER CONTROL ROM
FLAG PROCESSOR
FLAG STRATEGY LOGIC
FLAG UPDATING LOGIC
CIRC. DECODER
SYNDROME FORMER
MICROCODED CORRECTION PROCESSOR
EEP/PES GENERATOR
LATCH
BUFFER RAM
INTER-POLATING AND MUTING CIRCUIT
MUTE
TR1
TR14
+15V
Iref
HFD
PD/OC
CR1
CEFM
VDD
VSS
VBB
HFI
EYE PATTERN
TP2
FB
X2
11.2MHz
5.6MHz
SCAB
SDAB
Q DATA
Q CL
Q RA
DEEM
MSC
A0 to A7
D1 to D4
CAS
R/W
RAS
DECOU
DATA /DATA L
WS/LE
SYS DATA R
B CK
OB/TWO
IC3 MB8116-12
D. RAM 16K x 4
IC1 MAB8441PT078 SYSCON
ATT
DATA MUTE
SWAB /SSM
Q RD
Q CL
Q DATA
CRT
MUTE
RESET
Vss
VDD
X'TAL
S CLK
S DAT
RDL
GND
B3
B2
B1
B0
RE DIG
DODS
TL
SI
RD
IC4 NJM4560D
SPINDLE MOTOR
TRACKING COIL
FOCUS COIL
IC3 SGSL272M
LASER POWER
VR1
MONITOR
LASER
TRACKING SIGNAL
RF SIGNAL
C2
HF In
LASER SUPPLY
STARTING CIRCUIT
FOCUS NORMALIZING CIRCUIT
LO
LM
+9V
VBB
D4
D3
D2
D1
GCHF
CURRENT SWITCH
LEVEL DETECTOR AND DELAY CIRCUIT
RF AMPLIFIER
RF OUTPUT AMPLIFIER
EQUALIZER
BIAS CIRCUIT
HF OUT
HFD
DET
TL
DODS
LOGIC
CURRENT SWITCH
GCLF
RE 1
RE 2
RE DIG
FE
FE lag
SC
SI
RD
BEG
BGC
DEC
VDD
VBB
IC1 TDA5708
PRE & SERVO
IC2 TDA5709
TRACKING SERVO





IC2 TDA5709
TRACKING SERVO

C agc

V_{DD} V_{BB}

TRACKING SERVO OFF-SET
+5V VR2 -6V

REOUT

C lag

RE LAG

IC3
SGSL272M

OSCILLATOR 650Hz
0°
45°
90°

I int

ROM

3 1/2 BIT DAC

DAC

TR2
PICK-UP HOLD AT SHOCK

R OSC
C OSC 1
C OSC 2
C offset
C HPF
B0
B1
B2
B3

IC2
LTM8328G
LED DYSPLAY BLOCK

TR1, TR2, TR3, TR4, TR5
LOADING MOTOR CONTROL
LOADING MOTOR MECHA BLK

IC3 MB81416-12
D. RAM 16k x 4

A0 A1 A2 A3 A7 A4 A5 A6 CAS RAS R/W D3 D2 D1 D4

DATA LATCH
SW OUT
SW IN
CLOSE
OPEN
DISPLAY
OPEN/CLOSE STOP
MUSIC INDEX
MUSIC INDEX
MEMO/CHECK
REW
PAUSE
FWD
PLAY

S DAT
S CLK
X'TAL
X'TAL
RESET
VDD
Vss

IC1 MAB8441P
OPERATION

X1

TS1 to TS9
OPERATION KEY

IC4 TDA1541 DAC

LEFT OUTPUT LATCH
RIGHT OUTPUT LATCH
LEFT BIT SWITCHES
RIGHT BIT SWITCHES
10-BIT PASSIVE DIVIDER
10-BIT PASSIVE DIVIDER
3x2-BIT ACTIVE DIVIDER
3x2-BIT ACTIVE DIVIDER
REFERENCE SOURCE
SHIFT REGISTER
DECOU
DECOU
DATA /DATA L
BCK
WS/LE
SYS /DATA R
OS/TWC
LEFT INPUT LATCH
RIGHT INPUT LATCH
ADDRESS POINTER
CONTROL AND TIMING
OSCILLATOR
L OUT
R OUT
Rch
V_{DD} 1
V_{DD} 2
V_{DD}
ANALOG GND
DIGITAL GND

IC5
M5238P
VL1
VL2
VL3
IC6
M5218P
Lch OUTPUT

TR3 HIGH CUT
TR11 MUTE
TR4 MUTE
TR5 MUTE

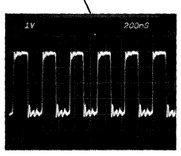
TR12 SEARCH :ON
TR2 EMPHSIS :ON
TR13 PAUSE :ON
+5V

TR1 MUTE

POWER OFF :ON
TR9

15V POWER REGULATOR IC7 TA78L015AP
5V POWER REGULATOR IC8 TA78005AP
-6V POWER REGULATOR IC9 TA79L006P
-15V POWER REGULATOR IC10 TA79L015P

TR6, TR7, TR8, TR10
POWER ON, OFF MUTE DETECTOR
POWER TRANSFORMER



CD-M300
BLOCK DIAGRAM
NO. 861210A 2